

Title (en)
FUEL AND BY-PRODUCTS FROM FERMENTATION STILL BOTTOMS

Title (de)
BRENNSTOFF UND NEBENPRODUKTE AUS FERMENTATIONSDESTILLATIONSRÜCKSTÄNDEN

Title (fr)
CARBURANT ET SOUS-PRODUITS ISSUS DE RESIDUS DE DISTILLATION DE PRODUITS DE FERMENTATION

Publication
EP 1748835 A4 20081119 (EN)

Application
EP 05748383 A 20050512

Priority
• US 2005016735 W 20050512
• US 57093504 P 20040513

Abstract (en)
[origin: US7267774B2] The disclosed invention is an improved method for treating ethanol distillation still bottoms by recovering, through solids separation and pressurized membrane filtration, potable water from still bottoms for human consumption by bottling or for reuse, and concentrating the solids with beneficial properties recovered such as chemicals, nutrients and medicinals before anaerobic digestion. The invention is an improved process because it can reduce the volume of solids to manage, recovers the water from the fermentation still bottoms while pasteurized, maintains the chemical and physical properties of solids for beneficial property recovery, improves ethanol and energy efficiency, and results in clean discharge to the environment including carbon dioxide recovery. A bioreactor produces a gas rich in methane fuel from the concentrate to power the pressurized filtration process and an aqueous ammonia solution to recover or recycle. This invention improves environmental quality, conserves energy, and produces a beverage water for bottling that can be of an organic origin with reliable source and quality.

IPC 8 full level
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CPC (source: EP US)
B01D 61/025 (2013.01 - EP US); **B01D 61/026** (2022.08 - EP); **B01D 61/029** (2022.08 - US); **B01D 61/04** (2013.01 - EP US); **B01D 61/145** (2013.01 - EP US); **B01D 61/147** (2013.01 - EP US); **B01D 61/58** (2013.01 - EP US); **C02F 1/44** (2013.01 - EP US); **C12M 21/04** (2013.01 - EP US); **C12M 43/08** (2013.01 - EP US); **C12M 45/04** (2013.01 - EP US); **B01D 61/027** (2013.01 - EP US); **B01D 2311/04** (2013.01 - EP US); **B01D 2317/025** (2013.01 - EP US); **B01D 2317/08** (2013.01 - EP US); **C02F 1/02** (2013.01 - EP US); **C02F 1/20** (2013.01 - EP US); **C02F 1/283** (2013.01 - EP US); **C02F 1/385** (2013.01 - EP US); **C02F 1/441** (2013.01 - EP US); **C02F 1/442** (2013.01 - EP US); **C02F 1/444** (2013.01 - EP US); **C02F 1/66** (2013.01 - EP US); **C02F 1/74** (2013.01 - EP US); **C02F 11/04** (2013.01 - EP US); **C02F 2103/32** (2013.01 - EP US); **Y02E 50/10** (2013.01 - EP US); **Y02E 50/30** (2013.01 - EP US); **Y02W 10/30** (2015.05 - EP US); **Y10S 203/90** (2013.01 - EP US)

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1. **B01D 2311/04 + B01D 2311/18**
2. **B01D 2311/04 + B01D 2311/2688**
3. **B01D 2311/04 + B01D 2311/2649 + B01D 2311/2688**

Citation (search report)
[X] US 4093516 A 19780606 - LANG JOHN L

Cited by
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US 2005252858 A1 20051117; **US 7267774 B2 20070911**; AT E555844 T1 20120515; EP 1748835 A2 20070207; EP 1748835 A4 20081119; EP 1748835 B1 20120502; WO 2005113118 A2 20051201; WO 2005113118 A3 20060824; WO 2005113118 B1 20061026

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